Summary of

Urology

Index

if you found it useful kindly share!

Urinary Stones

Etiology

Metabolic
1) Hyper-calcuria.
2) Oxaluria.
3) Uricosuria (Tumor lysis $ - Gout)

Stasis
- Prolonged recumb.
- Stricture.

Infection
(2^{RY} stone)
- Disturbed cryst. / colloid ratio
- Ulceration of mucosa → nidus → Stone formation.

Types



- All stones are **RO** except **PURE UA** (Radio-lucent)
- All stones are in **Acidic** urine except **PH**. (alk. urine)
- All stones are **Hard** except **PH**. (friable dt infection)
- All stones are **Laminated** except **PH**. (amorphous)
- All stones are **Smooth** except **Oxalate** (spiky)
  - → dark brown in color dt bl. pigment
  - → early symptoms "hematuria" → small stones.

NB: Triple Ph. stone = ammonium, Mg. Ca salts.
enlarges rapidly filling the renal calyx. **"Stag-Horn stone"**

Invest.

"Classical"
1) **Urine A.** → Pus, RBCs, Crystals, C&S.
2) **KFTs.**
3) **PXR** → 90% of urinary stones are RO.
4) **US** → • Radio-lucent stones. (10%) in kidney, UB & upper ureter.
   • Hydro-nephrosis.
5) **IVP** → as US + asses Kidney function.

Complications

"OMUMI"
1) **Obstruction** → back pressure
   - Hydrourter - Hydronephrosis.
   - Calculus anuria.
   - Acute Retention in stone urethra.
2) **Migration** → recurrent attacks of ureteric colic.
3) **Ulceration** → haematuria.
4) **Metaplasia** → SCC on top of leukoplakia.
5) **Infection** → pyelo-nephritis, pyonephrosis & Cystitis.

Treatment of Urinary Stones

of Stone

Conservative for 2 wks

5 Criteria

- Small < 6mm.
- Smooth surface.
- **No** distal obst.
- **No** infection.
- Good KFs. (IVP)

Explusion not Dissolution

- Ample of fluids or diuretics.
- Analgesic & Antispasmodic. (during the attack)
- Antibiotics if UTI dt stone migr.
- Follow up → P X-ray weekly.

Instrumental

Opp. to indications of Conserv. or failed??

1) 6 wks. & no expulsion.
2) No advance of stone after 2 wks. by X-ray.

Surgical

OBSELETE?!!

if failed or # instrumental ttt

1) Kidney → Nephrolithotomy.
2) Pelvis → Pyelolithotomy.
3) middle 1/3 → Uretero-lithotomy.
4) Bladder → Suprapubic cystolithotomy.
5) Urethra → Urethrotomy.

Prevent recurrence

By Stone Analysis

1) Ph. → Acidification by vit. C.
2) Ox. → $NaHCO_3$ + Thiazides (↓Ca in urine) + Citrates.
3) UA → $NaHCO_3$ + Allopurinol

Special Problems

Bi-lateral Renal Stone

Save 1st the better Kidney functioning (IVP) except:

- **Pain** on one side.
- **Pyonephrosis** on one side.
- Bi-lateral stag horn stone (if asymptomatic + No infection + HR pt.) → Only conservative.

Stag Horn Stone

- Combined **ESWL & PCNL.**
- If failed → Pyelo-nephro-lithotomy.
- If uni-lat. in non-functioning kidney → Nephrectomy.

Multiple Level Stones

- Relieve **lower obst. 1st** as it leads to more damage.
- **Urethra** then **Ureter** then **Kidney** the last is **Bladder**.

Kidney Stone

Asymptomatic.

Pain mainly:

- Dull aching pain in loin.
- Uretric colic → NV (so sever)
  - ✓ *Stone coming out of kidney → **loin.***
  - ✓ *Upper ureter → **thigh – scrotum.***
  - ✓ *Lower ureter & UB → **tip of penis.***
    (children rub their penis after micitur.)
- Stabbing pain → dt oxalate stone.

Ureteric Stone

As Kidney + 5 sites of impaction

1) PUJ.
2) Crossing the Iliac a.
3) Juxta-position of vas or broad ligament.
4) Intra-mural part.
5) Ureteric orifice.

UB Stone

Asymptomatic

1) Frequency: "Earliest"

- More by day dt trigonal irritation.
- Later → day & night from cystitis.

2) Bladder pain:

- Dull supra-pubic referred to tip of penis.
- S. pain at end of mictur. dt UB contraction.

3) T. hematuria dt UB contr. over ! stone.

➢ **Symptoms of the cause** eg. BPH.

Urethra

Acute retention of Urine

Signs:

- Supra-pubic tenderness & dullness.
- Stone in prostatic urethra → felt by PR.
- Stone in penile urethra → felt under surface.

Investigations = Classical +

Kidney Stone: —

Ureteric Stone:

- Cystoscopy → stone may be seen peeping through the ureteric orifice.

UB Stone:

1) Cystoscopy → stone + pathology (B).
2) Click on Sounding → not felt if:
   - Stone in diverticulum.
   - Stone in post. prostatic pouch.

Urethra:

1) Urethroscopy.
2) Click on Sounding.
3) **P-X ray:**
   - Ant. urethra → below SP.
   - Post. urethra → behind SP.

Treatment: Scheme + Specific

Kidney Stone:

- **ESWL**
  - **Urologic #** → *as # of Conserv. except if > 2 cm. or Stone lower calyx.*
  - **Non-urologic #** → Absolute → Preg. Relative → Kyphosis deformity or bl. tendency.
- **PCNL if**
  - Stone > 2 cm.
  - # of ESWL.
  - Failed ESWL.

Ureteric Stone:

Lower 1/3 :

- < **1.5 cm** → Dormia basket.
- > **1.5 cm** → USL + extraction by Dormia basket.

- **Middle 1/3** → Push bang or USL
  If failed → Open Uretero-lithotomy.
- **Upper 1/3** → Push bang + ESWL insitu.

UB Stone:

- **< 2 cm** → USL or Trans-urethral lithopaxy → Then fragments are lavaged outside by Ellik's evacuator.
- **> 2 cm** → Open Cysto-lithotomy

Urethra:

- **Penile** → Crocodile forceps.
- **Prostatic** → Push it up by sound to UB → manage as stone UB to relive ! obst

	Benign Prostatic H.	**Cancer Prostate**	**Wilm's Tumor**	**Hyper-nephroma**
Incidence	50 % of males > 50 ys.	M/C cancer in ♂ > 65 ys.	♂ < 4 ys.	♂ > 40 ys.
Etiology	hormonal imb. bet. (E) & Androgen	Long-standing Androgen ⊕	Embryonic "Totipotent" cells	Cells of the PCT.
Site	Transition "peri-urethral" zone	Peripheral zone	Upper pole / Bi-lateral (10%)	Upper pole / Bi-lateral (1-2%)
Mac.	• **Middle** → elevates ! UB trigone. • **Lat. lobes** both sides of urethra. • **Tri-lobar enlargement.**	• Hard schirous nodule. • Infiltrative.	**Large mass – soft rapidly gr. invading** • Early → capsule. "mass" • Late → pelvis. • Pink color.	**Mod. mass – Hard to firm – Compressing ! surr.** • Early → pelvis. "hematuria" • Late → capsule. • Golden yellow color + areas of HNC
Mic.	• Fibro-myo-adenoma. (SM glands) • Adenosis, epitheliosis, fibrosis.	• Adenocarcinoma. (Prostatic gl.) • **Gleason's score. (see Misc.)**	• **Epith.** → 1^{ry} glomeruli & tubules. • **CT** → cartilage, bone & ms.	• Adenocarcinoma. (see types in misc.) • Worst is mixed type.
Spread / Comp.	**2 X 2: Complicated Prostatism** • Acute retention ppt. by **"5W"**. • Ch. retention with over-flow. *(dt residual urine if pr. > urethra)* • Hydro ureter / Hydro-neph. • Cystitis / Stone. • Diverticulum / hematuria *dt rupture of SM congested veins.*	1) **Direct** → pelvic organs, rectum is the last to be involved dt fascia of Deninvier. 2) **Lymphatic** II LNs → common iliac → para aortic → thoracic duct → virchow's LN. 3) **Blood** → lumbar vertebrae. "osteo-sclerotic" dt com. bet. para-vertebral & peri-prostatic venous plexus.	1) **Direct & Blood.** "Early" 2) **Lymphatic.** "Late"	1) **Direct** → to pelvis early. 2) **Lymphatic** →Virchow's LN. 3) **Blood spread** • *embolization* → ***Canon ball 2^{ries}*** • *Permeation → malig. thrombus in RV & IVC →* ***2^{ry} varicocele.***
C/P	**Mainly Asympt. (95%) / Triad of Prostatism** 1) Night frequency & Urgency. (later diurnal dt cystitis) 2) Diff. micitur. to Start *(straining ↑cong. → ↑obst.)* maintain *(weak, forked, bet. legs)* finish. *(dribbling of urine)* 3) Sexual → early libido / late impotence. **Signs** G = Uremia, fever. A = Renal mass in hydro-neph. L = PR → (5S) Smooth, Soft, Sulci↑, Symmetrical, Sliding mucosa over rectum.	1) Path. → as BPH + Discovered at biopsy after enucleation. (histological surprise) 2) Doubtful → as BPH + PR = hard nodule! 3) Certain → as BPH but rapid onset & progressive course; but PR = 3aks el 5S. 4) Occult → Nothing except back pain dt metastasis. (DD = disc prolapse) **Differential Diagnosis:** • BPH – Cancer prostate. • Chronic prostatism – Hematuria.	1) Early Abd. mass. 2) Late hematuria. • Cachexia + Slim chest. (1–2 + cachexia: **Spindle shaped child**) 1) **FUO.** 2) **Vague Abd. pain** dt hge inside tumor. 3) **HTN** dt compression on renal vs. → ischemia → ⊕RAS 4) **Ass. Congenital anomalies.** • Macro-glossia – Aniridia. • Neuro-fibroma. • Cryptochidism – hypospadias.	1) hematuria: early • Total, causeless. • Painless, Profuse, Periodic. 2) Pain: • Dragging – dull ache – clot colic. • Later dt lumbar ns. infiltration. 3) Renal Mass. (see general) 4) 2^{ry} varicocele / Metastasis / FUO. 5) Para malig. $ → Renin – PRH – EP. (Triad occurs in 10% of pts. = inoperable)

Treatment

BPH

Asymptomatic → Wait & watch.

Mainly Conservative = avoid "5W":

1) α blockers → relax prostatic urethra.
2) 5 α reductase (-) → ↓ active androgen.
3) Phyto-therapy.

Surgery "Adenectomy" if:
- Comp. prostatism.
- Interf. with life style.
- RU > 100 ml

retrograde ejac. dt injury of sph. vesicae

1) **TURP** "best" → # if > 60 gm.
2) **Open surgery** → TVP or Retro-pubic.

Cancer Prostate

Operable → Radical prostatectomy **or** Radical Radio-th = **Ext. beam or I^{131} implant.**

Inoperable:

1) **Hormonal th.:**
- LHRH analogue → "Zoladex"
- Estrogens → Honvan (E + Phosphate) *(tumor cells contain ACP → releases (E) → acts on tumor cells only)*

2) **Palliative prostatectomy (TUR).** (to avoid acute retention)

Wilm's Tumor

Operable → Radical Nephrectomy. (Abd. approach?) same causes but no maliq. thrombus.

Inoperable

1) Pre-operative Chemo / Radio-th. or both.
2) Re-exploration if resectable.

Hyper-nephroma

Operable → Radical Nephrectomy. "Abd. approach" ?

a) Early ligation of renal vs.
b) Removal of maliq. thrombus in IVC.
c) Easily removal of huge tumor.
d) Dealing with infiltrated viscera.

Bi-lat. hyper-nephroma or in a solitary kidney → partial nephrectomy + SM 2 cm.

Inoperable:
- Palliative nephrectomy.
- IL-2 & Interferon.

Investigations = "Classical" + Specific

BPH / Cancer Prostate

1) **UA** + KFTs.
2) **Plain X ray** → **metastasis or Corpora amylacea.**
3) **TRUS** → **size.**
4) **IVP** → elevated smooth filling defect at the **bladder base.** ***irregular*** in cancer prostate.

5) **Specific:**

BPH

a) Residual urine > 100 ml
- Post-micturation IVP.
- Sonar after voiding.
- Catheter after voiding.

b) **PSA** to exclude cancer.

Cancer Prostate

1) **Trans-rectal Biopsy.**
2) **ACP & ALP.** "bone metastasis"
3) **PSA** > 4 suggestive. > 30 metastatic. Recently Free / Total PSA?! بالعكس :D
4) Dx. metastasis → CT / Bone scan.

Wilm's Tumor / Hyper-nephroma

1) **UA** + KFTs → RBCs + cytology for maliq. cells.
2) **Plain X ray** → obliteration of psoas shadow, calcifications.
3) **US.**
4) **IVP** → irregular spider leg app. (DEAD)
5) **Triphasic CT scan:**

a) Extent of tumor.
b) LN infiltration.
c) Vascularity.
d) Maliq. thrombus in RV & IVC.

Dx. metastasis → CT scan, US, bone scan

NB: Biopsy is controversial (CT guided / FNC) → peri-nephric hematoma.

Carcinoma of UB

	SCC (15%)	TCC (80%)
Age	20-40	> 60
Sex	♂:♀ → 4: 1 (Farmer with old B)	♂:♀ → 3: 1 (Citizen)
Etiology	**Bilharzial cystitis** → Precancerous (see misc.) **Other causes:** a) Stone bladder. b) Ectopia vesicae. c) Chronic cystitis other than B.	• Industrial carcinogenic: a) Analine dyes, petrol, leather. b) Rubber & textile. • Smoking → ↑Risks. (4X) • Anomalies of the bladder
Site	lateral & post. wall. (M/C)	lateral & post. wall. (M/C)
Macro	1) Fungating mass. 80% 2) Infiltrating mass. 3) Malig. ulcer.	1) Papillary mass. 90% 2) Other forms are rare.
Micro	***Same as SCC*** • Masses of Malignant cells. • Central → **CELL NESTs of Keratin.** • Peripheral squamous. "epitheliod"	**TCC**
Spread	"Late" dt fibrosis & calcification.	"Early" as there is no fibrosis
	1) **Direct** → to pelvic structures, but limited post. to ! rectum dt fascia of denonvier. 2) **Lymphatic** → Perivesical LNs → ext. iliac & II → common iliac → para-aortic LNs. 3) **Blood** → Very rare & late.	
Compl.	• Ulceration, hemorrhage, infection. (asc. PN) main COD. • Obstruction → hydro-ureter, hydro-nephrosis – Retention of urine.	

Cl./P



1) Recent aggrevation of Chronic cystitis.
(burning micutrition, frequency & pyuria)

2) Pain
- Dull aching supra-pubic pain.
- Tip of penis.
- Dull ache at loin dt back pr.
- Sciatic pain. "sacral plexus inv."

2) Necroturia.

3) Haematuria → Total + painful in SCC.
→ Painless in TCC

Signs

- **G** → CAM + Uraemia.
- **A** → renal or suprapubic mass.

	SCC of UB	TCC of UB

INVEST.

- **URINE ANALYSIS** → HEMATURIA, NECROTURIA, FISHY ODOR + CYTOLOGY.
- **PLAIN X-RAY** → ONLY IN BILHARZIAL CARCINOMA → BLADDER CALCIFICATION.
- **IVP:** → IRREGULAR FILLING DEFECT + ASSESS KF + BACK PR.
- **US / CT SCAN** → ASSES OPERABILITY.
- **Cystoscopy + Biopsy "Gold standard"**

TCC is classified into: *Superficial TCC* → ***no invasion of the ms. layer.***
Ms. invasion TCC → ***invasion of the ms. layer.***

DX. METASTASIS → CT SCAN – US – BONE SCAN.

WALLACE STAGING OF SCC
(BI-MANUAL EXAM. OF UB UNDER GA)

- **T0** → *No palpable mass.*
- **T1** → *mobile + no induration if UB wall.*
- **T2** → *mobile + induration.*
- **T3** → *mobile + extra-vesical spread.*
- **T4** → *fixed bladder mass.*

TREATMENT OF CANCER UB

	SCC of UB	TCC of UB
OPERABLE	**RADICAL CYSTECTOMY** • Whole bladder. • Overlying peritoneum + lower 2" of ureters. • Block Dissection of of Int. & Ext. iliac LNs. males: prostae, SV, VD. females: FT & ant. vag. wall. **URINARY DIVERSION** • Uretero-cutaneous. • Ileal conduit. • Uretro-sigmoidostomy. • Recto-vesico urethroplasty	**SUPERF. TCC** • Local excision. (TUR) • BCG vaccine "intra-vesical". **MS. INVASIVE TCC → AS SCC** • Radical Cystectomy + Urinary diversion. • Radical Radioth. → Ext. beam or brachy th.
INOPERABLE • LOCALLY ADV. • DX. METASTASIS. • LN ++	• Resectable → Palliative cystectomy	• Resectable → Palliative cystectomy.
	• Irresectable → Palliative Diversion or Palliative Radio & Chemo-th → CMV.	• Irresectable → Palliative Diversion.

KIDNEY RUPTURE

ETIOLOGY

- **EXTRA-PERIT. RUPTRE** dt blunt trauma.
- **INTRA-PERIT. RUPTURE DT:**

*Penetrating **Or** blunt trauma in hydro-nephrotic kidney or child dt little peri-nephric fat.*

PATHOLOGY:

- Sub-cap. hematoma. (Small / large)
- Tear. (Superficial / Deep).
- Avulsion. (of a pole / pedicle)

CL./P

Triad of

1) History of Trauma.
2) Hematuria… absent in:
- ***Tear*** → *Small or superficial.*
- ***Ureter*** → *avulsed or clot retentn.*
- ***Anuria*** *from s. shock.*
- ***Avulsion*** *of the whole kidney.*

3) Renal pain & Clot colic.

Signs

G → Shock.

Intra-peritoneal	*Extra-peritoneal*
Insp. *Hemo-peritoneum. ↓mov. e respiration.*	*Bruises & ecchymosis in loin.*
palpation *TR, RT + G & R all over*	*Same but at the loin + swelling dt pseudo-hemato hydroneph.*
perc. *Shifting dullness*	
Auscult *Silent abd.*	

COMP.

Early (APC)

1) Traumatic Anuria from shock.
2) Perinephric abscess.
3) Pseudo-hydroneph. → *accum. of urine + blood in peri-nephric space.*
4) Peritonitis.
5) P. ileus *dt retro-perit. hematoma.*
6) Clot retention.
7) Urinary fistula.

Late

1) Nephroptosis → *dt tearing of supporting t.*
2) HTN → *dt fibrosis → Ischemia → ⊕RAS.*
3) RA aneurysm.

INVEST.

1) UA & KFTs → RBCs. (micro & macrosopic)
2) P X-ray → *fracture ribs + oblit. of psoas shadow + elevated copula of diaph. dt sub-phrenic collection.*
3) IVP → Extra-vasation + asses both kidney f.
4) US & CT scan e contrast:
   - Extravasation. / pathology. (see above)
   - Rupture. (intra / extra-peritoneal)
   - Asses both kidney functions.

TREATMENT

Closed injury

CONSERVATIVE FOR 2 WKS

- R & M.
- CBC / 12 hrs.
- US / 24 hrs *for perinephric fluid collection.*
- Swelling in the loin.

Surgical

Indications

OPEN INJ. (INTRA-PERIT. HGE) OR CLOSED INJ. E FAILED CONSERV.

- Progressive shock.
- ↑ hematuria / ↓ Hb.
- Mass in the loin /peri-nephric inf.

EXPLORATION (ABD. APPROACH) & CONSERVE ! KIDNEY AMAP.

- **SMALL TEAR** → *surgicell.*
- **LARGE TEAR** → *vecrily mesh or omental patch.*
- **ONE POLE LACERATED** → *partial nephrectomy.*
- **LACERATED + (N) OTHER KIDNEY** → *nephrectomy.*
- **SOLITARY KIDNEY** → *packing e gauze for 48 hrs.*

	UB Rupture		**Urethra Rupture**	
	Intra-Peritoneal (20%)	**Extra-Peritoneal (80%)**	**Extra-Pelvic**	**Intra-Pelvic (m/c)**
Causes	Blow on a fully distended bladder "Saturday night injury"	Fracture pelvis.	Trauma to perineum (kick or falling astride)	Fracture pelvis
	• Gun shots. • Stab wound. • Instrumentations. • Endoscopic resection.			
Site	**Dome** of the bladder	**Ant. wall** of bladder or its base.	Ant. urethra (penile)	Post. urethra (prostatic / memb.)
Extra-vas. of urine	Peritoneal cavity	Plane bet. peritoneum & fascia transversalis = **Deep extra-vasation**	<u>SC extra-vasation</u> extending to ! ant. abd. wall & <u>only to upper</u> thigh. ***"limited by Scarpa's fascia"***	<u>as extra-peritoneal rupture bladder</u> + complete urethral tear & post. Pub-prostatic lig.
<u>**Symptoms**</u> • Hx. of trauma • Pain.	1) Shock. 2) Supra-pubic pain.		1) Urethral bleeding. 2) Acute retention of urine.	
	3) <u>**No desire**</u> to micturation. (urine in peritoneum) 4) <u>**Peritonism:**</u> T, RT, Rigidity max. at hypo-gastr. Distention, vomiting & constip.	3) **Hematuria.** 4) <u>**Diff. to miciturate**</u> dt narrow space (50 ml)+ rupture ms. layer. 5) **Fracture pelvis.**	3) **Perineal hematomoa.** 4) Sever perineal pain. <u>**Complications**</u>: *urethral stricture / fistula / peri-urethral abscess.*	3) **Deep extra-vasation** 4) Sever hypo-gastrial pain. <u>**Complications:**</u> *bl. loss & hgic shock / ureth. stricture / Impotence / inj. of ext. sphincter*
Signs (PR)	Fullness in recto-vesical pouch	Soft swelling in peri-vesical & prostatic spaces.	Prostate in its place.	Floating prostate.
Invest.	1) **Plain X-ray** → Ground glass app. (urine in lower abdomen) 2) **Catheter** → Only few drops of blood.	1) Plain X-ray → fractured pelvis. 2) Catheter → Urine + drops of bl. 3) IVP or Asc. cystography → leak.	1) Plain X-ray. 2) Asc. Urethropgraphy → extra-vasation. 3) IVP → for associated urinary injuries.	
TTT.	<u>Emergency repair in 2 layers using absorbable sutures</u> <u>**Mid-line supra-pubic incision**</u> → Urine is evacuated → Close bladder in 2 layers → Foley's catheter + Drain cave of Retzius. • **Supra-pubic cystostomy** → to (-) UB contraction → giving it time for healing.	<u>The same + Fracture pelvis</u> ↓ Never plate & screw as extra-vasated urine causes Osteomyelitis.	<u>Never 1ry repair as Catheter passage → ↑damage & infection</u> ↓ Supra pubic cyst-ostomy → wait 3 wks. for spont. healing & follow up by cystO-urethrogram → if with stricture ↓ Repeated Urethral dilation	

CONG. POLYCYSTIC KIDNEY

ETIOLOGY	• Failure of fusion between **metanephros** (kidney) & **mesonephros** (pelvis & collecting system) → **retention cysts** → Compression on renal tissue. • It might be a part of **cystic changes** of the body. **(lung – pancreas – liver)**
PATH.	• Both kidneys are **enlarged** with **multiple cysts.** • Cysts are **not intercommunicated & not connected to renal pelvis.** • Cysts **compress** renal tissue → pressure atrophy.
CL./ P	• **At birth** → Obstructed labor. • **Infantile type (AR)** → Uremia & renal rickets. • **<u>ADult type:</u> (AD) → at 4th decade** - **<u>SILENT ASYMPT. → SUDDENLY UREMIA.</u> (M/ C PRESENTATION)** - **<u>Bilateral</u>** <u>renal</u> **<u>mass</u>.** - **<u>Pain</u>** → dragging or dull ache. - **<u>Hematuria</u>** → dt rupture of cyst in the renal pelvis. - **<u>Hypertension</u>** → dt compression on renal vs.
DD	Hydro-nephrosis & Multi-cystic kidney.
INVEST.	• **UA & KFTs.** • **IVP** → Bilateral **<u>regular spider leg appearance.</u>** • **U/S →multiple cysts. "of choice"**
TTT.	1) **<u>No Nephrectomy</u>** unless **<u>Renal Transplant</u>** is possible **<u>since its bilateral.</u>** 2) Rovsing operation. (rupture the cysts → not beneficial)

Cysts are communicated in hydro-nephrosis.

<u>MULTI-CYSTIC KIDNEY:</u>
- NON-HEREDITARY. (UNKNOWN ETIOLOGY)
- UNILATERAL.
- PRE-MALIGNANT.
- SO TTT. IS NEPHRECTOMY.

Irregular & DEAD in hyper-nephroma

Miscellaneous

BPH = Causes of Night frequency & urgency

1) **at Night** dt warmth & lack of ms. pump.
2) ↓ **UB capacity** dt encroachment of the middle lobe.
3) **Residual urine** in "post. Prostatic pouch"
4) **Detrusor ms.** hyper-reflexia.
5) **Atony** of the bladder.
6) Exposure of prostatic urethra to urine inside the UB → desire.
7) Urgency is dt stretch of int. sphincter → sever desire.

Cancer prostate = Gleason's score

• **G1**	Well diff.	→ Gleason 2 – 4.
• **G2**	Mod. diff	→ Gleason 5 – 6.
• **G3**	poorly diff.	→ Gleason 7 – 8.
• **G4**	anaplastic	→ Gleason 9 – 10.

Hyper-Nephroma: Pathological types

• **Clear cell**	→ dt ↑ glycogen & lipid content.
• **Granular**	→ full of mitochondria.
• **Mixed (M/C)**	→ Granular + Clear type.
• **Mixed + Spindle cells**	→ most aggressive.

TCC of Renal pelvis

- Multi-centeric.
- Papilloma → bleeding & pre-cancerous.
- Local implantation → Ureter.
- TTT → Nephro-urterectomy = kidney + whole ureter.

Bilharzial Cystitis → Precancerous lesions

1) **B ova:**
   - Mech. irritation.
   - Long standing cystitis.
   - BNO + stasis.
2) Infected Alkaline urine → phosphatic encrustation cystitis + sq. metaplasia.
3) Nitrates in vegetables & drinking water → excreted in urine → acted upon by bacteria → N. nitroso compounds which are pre-cancerous.

PUJ Obstruction

- Etiology
  1) Uretero-pelvic tumors, polyps or valves.
  2) Cong. Stenosis.
  3) Motility disorder.
  4) Aberrant renal vs. → compressing the PUJ.
- Invest — IVP → dilated pelvi-calycal system + contrast suddenly stops at ! PUJ.
- TTT.
  - Functioning → Reconstruction of pelvis. "Anderson Hynes op."
  - Non-functioning → Nephrectomy if the other kidney is (N).